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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Eric Wolfsgruber et al. Confirmation No.: 3047
Serial No. : 10/057,547
Filed : January 25, 2002
TC/A.U. : 1775
Examiner : John J. Zimmerman

Docket No. : 02-121
Customer No.: 34704

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

SUBMISSION OF DECLARATION UNDER 37 C.F.R. 1.132

Dear Sir:

In furtherance to Applicant's preliminary amendment dated June 29, 2005, Applicants submit herewith the formal executed declaration of Dr, Eric Wolfsgruber which was submitted to the U.S. Patent and Trademark Office unsigned with Applicants' Preliminary amendment dated June 29, 2005.

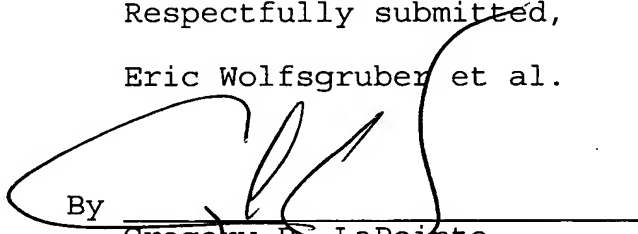
An early action on the merits is respectfully requested.

If any additional fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

Eric Wolfsgruber et al.

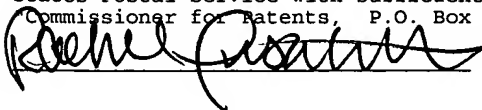
By



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Date: September 28, 2005

I, Rachel Piscitelli, hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on September 28, 2005.





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13.06.2005

Application: 10/057,547

DECLARATION UNDER 37 C.F.R. 1.132

I, Dr. Eric Wolfsgruber declares as follows:

That, I am a co-inventor of U.S. Patent Application Serial No.09/647,411

That, I am a graduate of the University of Technology of Vienna, Austria, where I received a doctorate degree in Technical Chemistry in 1997.

That, from 1997 to the present I have been employed at MEPURA.

The following text data shall establish the superiority of powder metallurgically produced metal foam.

Two AlSi12 foams were prepared as follows:

Alloy A – Foam:

AlSi12 was molten in an electrical furnace at approx. 600°C. 1% of a foaming agent (TiH₂-powder) was poured in the melt, after decomposition of the foaming agent the melt was poured into a mould having the shape of a hollow cylinder and cooled rapidly. The resulting foam is Foam A.

Composite B – Foam:

Al + 10 - 12% Si powder with a grain size of 0 – 500 µm as well as 1% foaming agent (TiH₂-powder) have been admixed thoroughly and compressed in a die. The pressed densified material was placed into a heatable mould.(shape of a hollow cylinder) and shortly heated up

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to 600°. The resulting foam is a composite which was prepared avoiding the molten phase – the powder grains only soften and adhere to each other during the short heating thereof to have TiH₂ decompose producing gas and foaming the mixture.

The physical characteristics thereof where as follows:

absolute density:

Composite B AlSi12 foam: 0,4 – 0,8 g/cm³

Alloy A AlSi12 foam: 0,1 – 0,4 g/cm³

structure:

Alloy A: Partially open celled foam (irregular pore size distribution)

Composite B: Mainly closed cells (homogeneous pore size distribution)

modulus of elasticity (GPa)

Alloy A: 0.4 – 1.0

Composite B: 1.7 – 12

compressive strength (MPa)

Alloy A: 1.3 – 1.7

Composite B: 1.9 – 14.0

yield stress (MPa)

Alloy A: 1.6 – 1.8

Composite B: 2.0 – 20.0

tensile strength (MPa)

Alloy A: 0.05 – 1.9

Composite B: 2.2 – 30.0

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We have taken pictures of the materials (enclosed). The pictures show longitudinal sections of foamed bodies having the shape of a hollow cylinder. By visual inspection it was found that the pore distribution of Alloy A is uneven (Picture 1). There are big spaces which weaken the foamed structure. Contrary thereto the pore distribution of Composite-foam B is more even and the pores are much about the same size.

The undersigned declares further that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and such wilful false statements may jeopardize the validity of the instant document and of the application Serial No. 10/057,547 or any patent issuing thereon to which the instant document refers.

Date 2005-06-13


Signature

ERIC WOLFGRUBER
Name

Dr. techn.
Title

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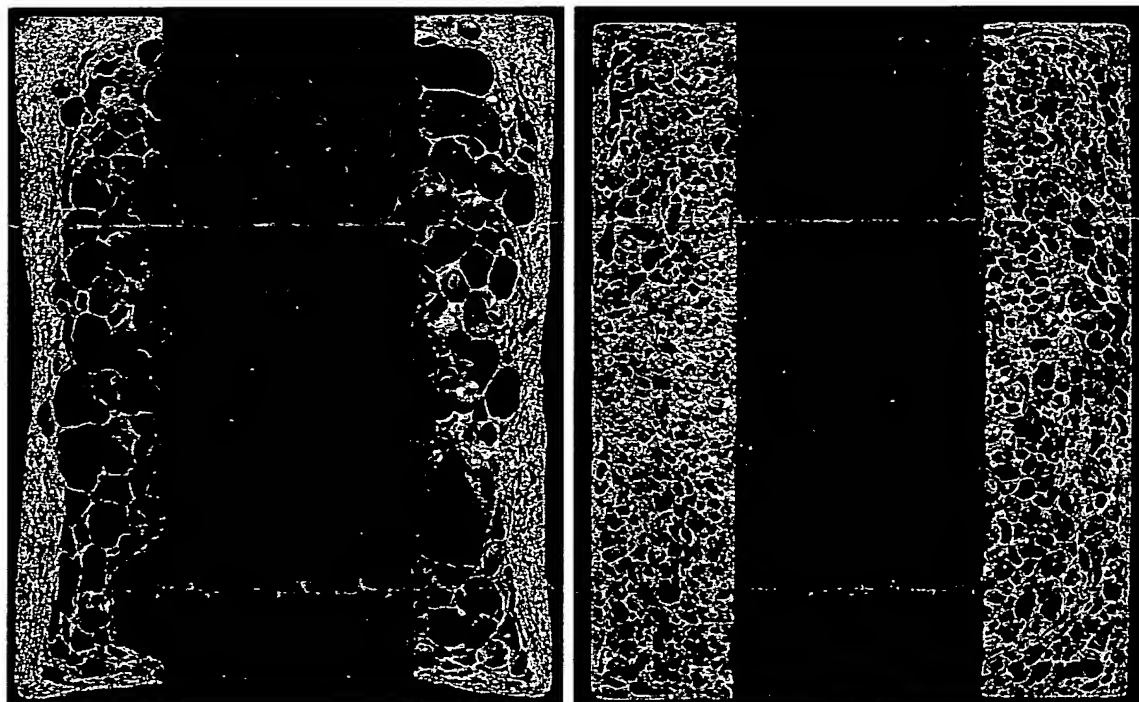
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Appendix:



Picture 1: Section of Alloy A- foam

Section of Composite B-foam

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